

### Claims

1. – 41. (Canceled)

42. (Currently Amended) ~~The A method of claim 23 identifying a compound that induces cell cycle arrest, the method comprising:~~

- ~~(i) contacting the compound with a Fanconi anemia group A (FANCA) polypeptide with an amino acid sequence consisting of wherein the FANCA polypeptide is SEQ ID NO:6, wherein inhibition of the FANCA polypeptide activity or expression in a cell causes cell cycle arrest; and~~
- ~~(ii) determining the effect of the compound upon the FANCA polypeptide activity or expression as compared to a control without the compound, thereby identifying a compound that induces cell cycle arrest.~~

43. - 44. (Canceled)

45. (New) The method of claim 42, wherein the effect is determined by measuring aldehyde dehydrogenase activity.

46. (New) The method of claim 42, further comprising determining the effect of the compound upon a cell comprising the FANCA polypeptide.

47. (New) The method of claim 46, wherein the effect upon the cell is determined by measuring cell cycle arrest.

48. (New) The method of claim 47, wherein cell cycle arrest is measured by assaying DNA synthesis or fluorescent marker level.

49. (New) The method of claim 48, wherein DNA synthesis is measured by <sup>3</sup>H thymidine incorporation or Hoescht staining.

50. (New) The method of claim 48, wherein the fluorescent marker is selected from the group consisting of a cell tracker dye or green fluorescent protein.